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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,899	12/24/2003	Futoshi Deguchi	L8612.03112	9198

7590 11/16/2005
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EXAMINER

BROWN, VERNAL U

ART UNIT	PAPER NUMBER
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2635

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/743,899	DEGUCHI ET AL.	
	Examiner	Art Unit	
	Vernal U. Brown	2635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) 6-13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The application Deguchi Futoshi for Non-contact IC Card Reading/Writing Apparatus filed 12/24/2003 has been examined Claims 1-13 are pending.

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because it exceeded 150 words, more than one paragraph and is uses the phrase present invention which is implied and should be avoided. Correction is required. See MPEP § 608.01(b).

Claim Objections

Claims 6-13 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claims. See MPEP § 608.01(n). Accordingly, the claims 6-13 not been further treated on the merits.

Regarding claim 6, a multiple dependent claim should be written in the alternative form.

Regarding claims 7-13, a multiple dependent claim cannot depends on a multiple dependent claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al. US Patent 6194993 in view of Arndt et al. US Patent 6097189.

Regarding claims 1-3, Hayashi et al. teaches a non-contact IC card reading/writing apparatus comprising: a loop antenna (col. 6 lines 38-40), which supplies both electric power and a transmission signal to a non-contact IC card by way of an electromagnetic induction effect (col. 5 lines 5-10) and acquires a reception signal from the non-contact IC card by way of a load variation (col. 6 lines 24-30); a wireless transmitter, which supplies both electric power and transmission data (col. 4 lines 6-10); a wireless receiver, which acquires a reception signal from the loop antenna via the resonant circuit; wherein data transmitted from the non-contact IC card is demodulated from the reception signal by a demodulating circuit (col. 8 lines 9-11). Hayashi et al. teaches the transmitter formed by the transmission amplifier 109 and the modulator and the reception amplifier 111 are coupled together (figure 2) but is silent on teaching a directional coupler for coupling the receiver and the transmitter and is not explicit in teaching a resonant circuit which resonates the loop antenna at a desired frequency. Arndt et al. in an art related reader invention teaches the receiver and the transmitter of a reader are coupled by a directional coupler (col. 12 lines 59-65) in order to provide reference signal between the receiver and the transmitter for determining phase change. One skilled recognizes that most

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antennas are resonant devices, which operate efficiently over a relatively narrow frequency band. An antenna must be tuned to the same frequency band that the radio system operates in, otherwise reception and/or transmission will be impaired.

It would have been obvious to one of ordinary skill in the art to have a directional coupler for coupling the receiver and the transmitter and a resonant circuit that resonates the loop antenna at a desirable frequency in Hayashi et al. as evidenced by Arndt et al. because a directional coupler provides the reference signal between the transmitter and the receiver and one skilled in the art recognizes that that most antennas are resonant devices, which operate efficiently over a relatively narrow frequency band and an antenna must be tuned to the same frequency band that the radio system operates in, otherwise reception and/or transmission will be impaired.

Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al. US Patent 6194993 in view of Everett et al. US Patent 5317330.

Regarding claims 4-5, Regarding claims 1-3, Hayashi et al. teaches a non-contact IC card reading/writing apparatus comprising: a loop antenna (col. 6 lines 38-40), which supplies both electric power and a transmission signal to a non-contact IC card by way of an electromagnetic induction effect (col. 5 lines 5-10) and acquires a reception signal from the non-contact IC card by way of a load variation (col. 6 lines 24-30); a wireless transmitter, which

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supplies both electric power and transmission data (col. 4 lines 6-10); a wireless receiver, which acquires a reception signal from the loop antenna via the resonant circuit; wherein data transmitted from the non-contact IC card is demodulated from the reception signal by a demodulating circuit (col. 8 lines 9-11). Hayashi et al. teaches the response from the tag is generated based on a load variation (col. 8 lines 57-59). Hayashi et al. is however silent on teaching a first resonant circuit, resonates the loop antenna at a first desirable frequency and a wireless receiver, acquires a reception signal from the loop antenna via a second resonant circuit which is connected to the loop antenna by way of a coupling capacitor and is resonated at a second desirable frequency. Everett et al. in an art related RF tag invention teaches a reader having a dual resonant antenna which perform parallel resonant at the received frequency and series resonant at the transmitted frequency (col. 2 lines 5-15) so as to enable increase retransmitted power from the tag to the reader.

It would have been obvious to one of ordinary skill in the art to a first resonant circuit, resonates the loop antenna at a first desirable frequency and a wireless receiver, acquires a reception signal from the loop antenna via a second resonant circuit which is connected to the loop antenna by way of a coupling capacitor and is resonated at a second desirable frequency in Hayashi et al. as evidenced by Everett et al. because Hayashi et al. suggests a reader a reader having a dual resonant antenna which perform parallel resonant at the received frequency and series resonant at the transmitted frequency so as to enable increase retransmitted power from the tag.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vernal U. Brown whose telephone number is 571-272-3060. The examiner can normally be reached on 8:30-7:00 Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached on 571-272-3068. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Vernal Brown
November 9, 2005



BRIAN ZIMMERMAN
PRIMARY EXAMINER